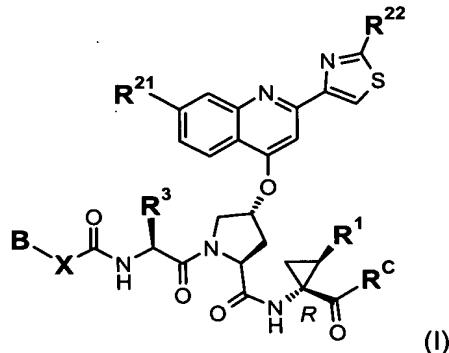


**WHAT IS CLAIMED IS:**

1. A racemate, diastereoisomer, or optical isomer of a compound of formula (I):



wherein **B** is (C<sub>1-10</sub>)alkyl, (C<sub>3-7</sub>)cycloalkyl, or (C<sub>1-4</sub>)alkyl-(C<sub>3-7</sub>)cycloalkyl,

- a) wherein said cycloalkyl and alkyl-cycloalkyl may be mono-, di- or tri-substituted with (C<sub>1-3</sub>)alkyl; and
- b) wherein said alkyl, cycloalkyl, and alkyl-cycloalkyl may be mono- or di-substituted with substituents selected from hydroxy and O-(C<sub>1-4</sub>)alkyl; and
- c) wherein each of said alkyl groups may be mono-, di- or tri-substituted by halogen; and
- d) wherein in each of said cycloalkyl groups being 5-, 6- or 7-membered, one or two -CH<sub>2</sub>-groups not being directly linked to each other may be replaced by -O- such that the O-atom is linked to the group **X** via at least two C-atoms;

**X** is O or NH;

**R**<sup>3</sup> is (C<sub>2-8</sub>)alkyl, (C<sub>3-7</sub>)cycloalkyl, or (C<sub>1-3</sub>)alkyl-(C<sub>3-7</sub>)cycloalkyl, wherein each of said alkyl and cycloalkyl groups may be mono-, di- or tri-substituted with (C<sub>1-4</sub>)alkyl;

**R**<sup>21</sup> is H, halogen, -OH, (C<sub>1-6</sub>)alkyl, (C<sub>3-6</sub>)cycloalkyl, -(C<sub>1-4</sub>)alkyl-(C<sub>3-6</sub>)cycloalkyl, (C<sub>1-6</sub>)alkoxy, -O-(C<sub>3-6</sub>)cycloalkyl, -O-(C<sub>1-4</sub>)alkyl-(C<sub>3-6</sub>)cycloalkyl or -N(R<sup>24</sup>)<sub>2</sub>, wherein each **R**<sup>24</sup> is independently: H, (C<sub>1-6</sub>)alkyl, -(C<sub>3-6</sub>)cycloalkyl, or -(C<sub>1-4</sub>)alkyl-(C<sub>3-6</sub>)cycloalkyl;

**R<sup>22</sup>** is  $-NR^{N2}COOR^0$  or  $-NR^{N2}CONR^{N3}R^{N1}$ , wherein  
 $R^0$  is selected from (C<sub>1-8</sub>)alkyl, (C<sub>3-7</sub>)cycloalkyl, and (C<sub>1-4</sub>)alkyl-(C<sub>3-7</sub>)cycloalkyl, wherein said cycloalkyl and alkyl-cycloalkyl may be mono-, di- or tri-substituted with (C<sub>1-3</sub>)alkyl;  
 $R^{N1}$  is H or  $R^0$  as defined above; and  
 $R^{N2}$  and  $R^{N3}$  are independently selected from H and methyl;

**R<sup>1</sup>** is ethyl or vinyl;

**R<sup>c</sup>** is hydroxy or  $NHSO_2R^S$  wherein  $R^S$  is (C<sub>1-6</sub>)alkyl, (C<sub>3-7</sub>)cycloalkyl or (C<sub>1-6</sub>)alkyl-(C<sub>3-7</sub>)cycloalkyl, phenyl, naphthyl, pyridinyl, (C<sub>1-4</sub>)alkyl-phenyl, (C<sub>1-4</sub>)alkyl-naphthyl or (C<sub>1-4</sub>)alkyl-pyridinyl; each of which optionally being mono-, di- or tri-substituted with substituents selected from halogen, hydroxy, cyano, (C<sub>1-4</sub>)alkyl, O-(C<sub>1-6</sub>)alkyl, -CO-NH<sub>2</sub>, -CO-NH((C<sub>1-4</sub>)alkyl), -CO-N((C<sub>1-4</sub>)alkyl)<sub>2</sub>, -NH<sub>2</sub>, -NH((C<sub>1-4</sub>)alkyl), -N((C<sub>1-4</sub>)alkyl)<sub>2</sub>, wherein (C<sub>1-4</sub>)alkyl and O-(C<sub>1-6</sub>)alkyl are optionally mono-, di- or trisubstituted with halogen; and each of which optionally being monosubstituted with nitro;  
or a pharmaceutically acceptable salt or ester thereof.

2. The compound according to claim 1, wherein
  - B** is (C<sub>1-10</sub>)alkyl, (C<sub>3-7</sub>)cycloalkyl or (C<sub>1-4</sub>)alkyl-(C<sub>3-7</sub>)cycloalkyl,
    - a) wherein said cycloalkyl and alkyl-cycloalkyl may be mono-, di- or tri-substituted with (C<sub>1-3</sub>)alkyl; and
    - b) wherein said alkyl, cycloalkyl and alkyl-cycloalkyl may be mono- or di-substituted with substituents selected from hydroxy and O-(C<sub>1-4</sub>)alkyl; and
    - c) wherein each of said alkyl-groups may be mono-, di- or tri-substituted by halogen; and
    - d) wherein in each of said cycloalkyl-groups being 5-, 6- or 7-membered, one or two -CH<sub>2</sub>-groups not being directly linked to each other may be replaced by -O- such that the O-atom is linked to the group **X** via at least two C-atoms;

X is O or NH;

R<sup>3</sup> is (C<sub>2-8</sub>)alkyl, (C<sub>3-7</sub>)cycloalkyl or (C<sub>1-3</sub>)alkyl-(C<sub>3-7</sub>)cycloalkyl, wherein said cycloalkyl groups may be mono-, di- or tri-substituted with (C<sub>1-4</sub>)alkyl;

R<sup>21</sup> H, halogen, -OH, (C<sub>1-6</sub>)alkyl, (C<sub>3-6</sub>)cycloalkyl, -(C<sub>1-4</sub>)alkyl-(C<sub>3-6</sub>)cycloalkyl, (C<sub>1-6</sub>)alkoxy, -O-(C<sub>3-6</sub>)cycloalkyl, -O-(C<sub>1-4</sub>)alkyl-(C<sub>3-6</sub>)cycloalkyl or -N(R<sup>24</sup>)<sub>2</sub>, wherein each R<sup>24</sup> is independently: H, (C<sub>1-6</sub>)alkyl, -(C<sub>3-6</sub>)cycloalkyl, or -(C<sub>1-4</sub>)alkyl-(C<sub>3-6</sub>)cycloalkyl;

R<sup>22</sup> is -NR<sup>N2</sup>COOR<sup>0</sup> or -NR<sup>N2</sup>CONR<sup>N3</sup>R<sup>N1</sup>, wherein R<sup>0</sup> is selected from (C<sub>1-8</sub>)alkyl, (C<sub>3-7</sub>)cycloalkyl and (C<sub>1-4</sub>)alkyl-(C<sub>3-7</sub>)cycloalkyl, wherein said cycloalkyl, alkyl-cycloalkyl may be mono-, di- or tri-substituted with (C<sub>1-3</sub>)alkyl; R<sup>N1</sup> is H or R<sup>0</sup> as defined above; and R<sup>N2</sup> and R<sup>N3</sup> are independently selected from H and methyl;

R<sup>1</sup> is ethyl or vinyl;

R<sup>c</sup> is hydroxy or NHSO<sub>2</sub>R<sup>s</sup> wherein R<sup>s</sup> is (C<sub>1-6</sub>)alkyl, (C<sub>3-7</sub>)cycloalkyl or (C<sub>1-6</sub>)alkyl-(C<sub>3-7</sub>)cycloalkyl, phenyl, naphthyl, pyridinyl, (C<sub>1-4</sub>)alkyl-phenyl, (C<sub>1-4</sub>)alkyl-naphthyl or (C<sub>1-4</sub>)alkyl-pyridinyl; all of which optionally being mono-, di- or tri-substituted with substituents selected from halogen, hydroxy, cyano, (C<sub>1-4</sub>)alkyl, O-(C<sub>1-6</sub>)alkyl, -CO-NH<sub>2</sub>, -CO-NH((C<sub>1-4</sub>)alkyl), -CO-N((C<sub>1-4</sub>)alkyl)<sub>2</sub>, -NH<sub>2</sub>, -NH((C<sub>1-4</sub>)alkyl), -N((C<sub>1-4</sub>)alkyl)<sub>2</sub>; and all of which optionally being monosubstituted with nitro;

or a pharmaceutically acceptable salt or ester thereof.

3. The compound according to claim 1, wherein R<sup>21</sup> is selected from halogen, -OH, (C<sub>1-3</sub>)alkoxy or N(R<sup>24</sup>)<sub>2</sub>, wherein each R<sup>24</sup> is independently: H or (C<sub>1-6</sub>)alkyl.

4. The compound according to claim 3, wherein  $\text{R}^{21}$  is selected from -OH, -OCH<sub>3</sub> and -N(CH<sub>3</sub>)<sub>2</sub>.
5. The compound according to claim 1, wherein  $\text{R}^{22}$  is -NHCOOR<sup>0</sup> or -NHCONHR<sup>N1</sup>, wherein R<sup>N1</sup> and R<sup>0</sup> are defined as in claim 1.
6. The compound according to claim 5, wherein R<sup>0</sup> and R<sup>N1</sup>, are selected from the group consisting of methyl, ethyl, propyl, 1-methylethyl, butyl, 1-methylpropyl, 2-methylpropyl, 1,1-dimethylethyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl and cyclohexylmethyl; wherein said cycloalkyl and alkyl-cycloalkyl groups optionally being substituted by 1 to 3 substituents selected from methyl and ethyl.
7. The compound according to claim 1, wherein B is selected from (C<sub>1-4</sub>)alkyl, (C<sub>3-7</sub>)cycloalkyl and (C<sub>1-3</sub>)alkyl-(C<sub>3-7</sub>)cycloalkyl,
  - a) wherein said cycloalkyl and alkyl-cycloalkyl may be mono-, di- or tri-substituted with (C<sub>1-3</sub>)alkyl; and
  - b) wherein said alkyl, cycloalkyl and alkyl-cycloalkyl may be mono- or di-substituted with substituents selected from hydroxy and O-(C<sub>1-4</sub>)alkyl; and
  - c) wherein each of said alkyl groups may be mono-, di- or tri-substituted with fluorine or mono-substituted by chlorine or bromine; and
  - d) wherein in each of said cycloalkyl groups being 5-, 6- or 7-membered, one or two -CH<sub>2</sub>-groups not being directly linked to each other may be replaced by -O- such that the O-atom is linked to the group X via at least two C-atoms.
8. The compound according to claim 7, wherein B is selected from ethyl, n-propyl, i-propyl, n-butyl, 1-methylpropyl, 2-methylpropyl, tert-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl and cyclohexylmethyl,
  - a) wherein each of said cycloalkyl and alkyl-cycloalkyl groups optionally being substituted by 1 to 3 substituents selected from methyl and ethyl;
  - b) wherein each of said groups optionally being mono- or di-substituted with

substituents selected from hydroxy, methoxy and ethoxy; and

- c) wherein each of said alkyl groups may be mono-, di- or tri-substituted with fluorine or mono-substituted by chlorine or bromine and
- d) wherein in each of said cycloalkyl-groups being 5-, 6- or 7-membered, one or two -CH<sub>2</sub>-groups not being directly linked to each other may be replaced by -O- such that the O-atom is linked to the group X via at least two C-atoms.

9. The compound according to claim 8, wherein **B** is selected from cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, 1-methylcyclopentyl and 1-methylcyclohexyl.

10. The compound according to claim 1, wherein **R**<sup>3</sup> is selected from ethyl, propyl, butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl, cyclohexylmethyl, each of which optionally being substituted by 1 to 3 substituents selected from methyl, ethyl and propyl.

11. The compound according to claim 10, wherein **R**<sup>3</sup> is selected from 1-methylethyl, 1,1-dimethylethyl, 1-methylpropyl, 2-methylpropyl, 1,1-dimethylpropyl, 1,2-dimethylpropyl, 2,2-dimethylpropyl, cyclopentyl, cyclohexyl, 1-methylcyclopentyl, 1-methylcyclohexyl, cyclopentylmethyl, cyclohexylmethyl, (1-methylcyclopentyl)methyl and (1-methylcyclohexyl)methyl.

12. The compound according to claim 1, wherein **R**<sup>1</sup> is vinyl.

13. The compound according to claim 1, wherein **R**<sup>c</sup> is selected from hydroxy or  $\text{NHSO}_2\text{R}^s$  wherein **R**<sup>s</sup> is methyl, ethyl, n-propyl, i-propyl, n-butyl, 1-methylpropyl, 2-methylpropyl, *tert*-butyl, cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl, cyclohexylmethyl, phenyl, naphthyl, pyridinyl, phenylmethyl, naphthylmethyl or pyridinylmethyl,

- a) each of which optionally being mono-, di- or tri-substituted with substituents

selected from fluorine and methyl; and

- b) each of which optionally being mono- or disubstituted with substituents selected from hydroxy, trifluoromethyl, methoxy and trifluoromethoxy; and
- c) each of which optionally being monosubstituted with substituents selected from chlorine, bromine, cyano, nitro, -CO-NH<sub>2</sub>, -CO-NHCH<sub>3</sub>, -CO-N(CH<sub>3</sub>)<sub>2</sub>, -NH<sub>2</sub>, -NH(CH<sub>3</sub>) and -N(CH<sub>3</sub>)<sub>2</sub>.

14. The compound according to claim 13 wherein R<sup>c</sup> is hydroxy, NHSO<sub>2</sub>-methyl, NHSO<sub>2</sub>-ethyl, NHSO<sub>2</sub>-(1-methyl)ethyl, NHSO<sub>2</sub>-propyl, NHSO<sub>2</sub>-cyclopropyl, NHSO<sub>2</sub>-cyclopropylmethyl, NHSO<sub>2</sub>-cyclobutyl, NHSO<sub>2</sub>-cyclopentyl or NHSO<sub>2</sub>-phenyl.

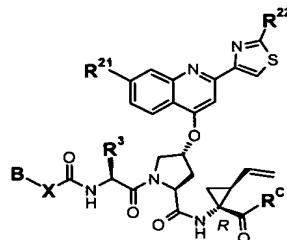
15. The compound according to claim 14 wherein the group R<sup>c</sup> is hydroxy.

16. The compound according to claim 14 wherein the group R<sup>c</sup> is NHSO<sub>2</sub>-cyclopropyl.

17. The compound according to claim 1, wherein X is O.

18. The compound according to claim 1, wherein X is NH.

19. The compound according to claim 1, represented by formula:



wherein R<sup>21</sup> is -OCH<sub>3</sub> or N(CH<sub>3</sub>)<sub>2</sub>;

R<sup>22</sup> is -NHCOOR<sup>0</sup> or -NHCONHR<sup>N1</sup>, wherein

R<sup>0</sup> and R<sup>N1</sup> is each independently selected from (C<sub>1-4</sub>)alkyl or (C<sub>3-6</sub>)cycloalkyl;

B is (C<sub>4-6</sub>)cycloalkyl;

X is O or NH;

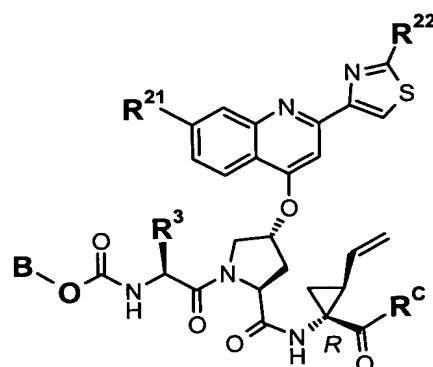
R<sup>3</sup> is *tert*-butyl or cyclohexyl;

R<sup>c</sup> is hydroxy or NHSO<sub>2</sub>R<sup>s</sup> wherein R<sup>s</sup> is (C<sub>1-4</sub>)alkyl, (C<sub>3-6</sub>)cycloalkyl or

phenyl;

or a pharmaceutically acceptable salt or ester thereof.

20. The compound according to claim 19, wherein  $\mathbf{R}^{21}$  is  $-\text{OCH}_3$ ;  $\mathbf{R}^{22}$  is  $-\text{NHCOOR}^0$  wherein  $\mathbf{R}^0$  is isopropyl or cyclopentyl; and  $\mathbf{R}^c$  is  $\text{NHSO}_2\mathbf{R}^s$  wherein  $\mathbf{R}^s$  is cyclopropyl; and wherein  $\mathbf{B}$ ,  $\mathbf{X}$ ,  $\mathbf{R}^{22}$ , and  $\mathbf{R}^3$  are defined as in claim 19.
21. The compound according to claim 19 wherein  $\mathbf{R}^c$  is hydroxy and wherein  $\mathbf{B}$ ,  $\mathbf{X}$ ,  $\mathbf{R}^{21}$ ,  $\mathbf{R}^{22}$ , and  $\mathbf{R}^3$  are defined as in claim 19.
22. The compound according to claim 21 wherein  $\mathbf{R}^{21}$  is  $-\text{OCH}_3$  and  $\mathbf{R}^{22}$  is  $-\text{NHCOOR}^0$  wherein  $\mathbf{R}^0$  is isopropyl or cyclopentyl, and wherein  $\mathbf{B}$ ,  $\mathbf{X}$ ,  $\mathbf{R}^c$ , and  $\mathbf{R}^3$  are defined as in claim 21.
23. The compound according to claim 1 of the formula



wherein the substituents  $\mathbf{B}$ ,  $\mathbf{R}^3$ ,  $\mathbf{R}^{21}$ ,  $\mathbf{R}^{22}$  and  $\mathbf{R}^c$  are defined according to the following table

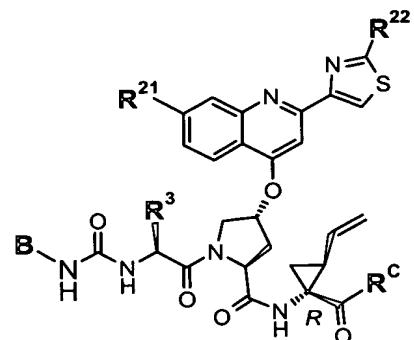
Cpd	$\mathbf{B}$	$\mathbf{R}^3$	$\mathbf{R}^{21}$	$\mathbf{R}^{22}$	$\mathbf{R}^c$
101			$-\text{OCH}_3$		$-\text{OH}$
102			$-\text{OCH}_3$		$-\text{OH}$

Cpd	B	R <sup>3</sup>	R <sup>21</sup>	R <sup>22</sup>	R <sup>c</sup>
103			-OCH <sub>3</sub>		-OH
104			-OCH <sub>3</sub>		-OH
105			-OCH <sub>3</sub>		-OH
106			-OCH <sub>3</sub>		-OH
107			-OCH <sub>3</sub>		-OH
108			-OCH <sub>3</sub>		-OH
109			-OCH <sub>3</sub>		-OH
110			-OCH <sub>3</sub>		-OH
111			-OCH <sub>3</sub>		-OH
112			-OCH <sub>3</sub>		-OH

Cpd	B	R <sup>3</sup>	R <sup>21</sup>	R <sup>22</sup>	R <sup>c</sup>
113			-OCH <sub>3</sub>		-OH
114			-OCH <sub>3</sub>		-OH
115			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
116			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
117			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
118			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
119			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
120			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
121			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
122			N(CH <sub>3</sub> ) <sub>2</sub>		-OH

Cpd	B	R <sup>3</sup>	R <sup>21</sup>	R <sup>22</sup>	R <sup>c</sup>
123			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
124			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
125			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
126			N(CH <sub>3</sub> ) <sub>2</sub>		-OH
127			N(CH <sub>3</sub> ) <sub>2</sub>		-OH

24. The compound according to claim 1 of the formula



wherein the substituents B, R<sup>3</sup>, R<sup>21</sup>, R<sup>22</sup> and R<sup>c</sup> are defined according to the following table

Cpd	B	R <sup>3</sup>	R <sup>21</sup>	R <sup>22</sup>	R <sup>c</sup>
201			-OCH <sub>3</sub>		-OH

Cpd	B	R <sup>3</sup>	R <sup>21</sup>	R <sup>22</sup>	R <sup>c</sup>
202			-OCH <sub>3</sub>		-OH
203			-N(CH <sub>3</sub> ) <sub>2</sub>		-OH

25. A pharmaceutical composition comprising an anti-hepatitis C virally effective amount of a compound of formula I according to claim 1 or a pharmaceutically acceptable salt or ester thereof, in admixture with at least one pharmaceutically acceptable carrier medium or auxiliary agent.
26. The pharmaceutical composition according to claim 25 further comprising a therapeutically effective amount of at least one other antiviral agent.
27. The pharmaceutical composition according to claim 26, wherein said other antiviral agent is ribavirin.
28. The pharmaceutical composition according to claim 26, wherein said other antiviral agent is selected from another anti-HCV agent, HIV inhibitor, HAV inhibitor and HBV inhibitor.
29. The pharmaceutical composition according to claim 28 wherein said other anti-HCV agent is selected from immunomodulatory agents, other inhibitors of HCV NS3 protease, inhibitors of HCV polymerase and inhibitors of another target in the HCV life cycle.
30. The pharmaceutical composition according to claim 29 wherein said immunomodulatory agent is selected from  $\alpha$ -interferon and pegylated  $\alpha$ -interferon.
31. The pharmaceutical composition according to claim 29, wherein said inhibitor of another target in the HCV life cycle is selected from inhibitors of: helicase,

NS2/3 protease and internal ribosome entry site (IRES).

32. A method for the treatment or prevention of a hepatitis C viral infection in a mammal by administering to the mammal an anti-hepatitis C virally effective amount of a compound of formula I according to claim 1, or a pharmaceutically acceptable salt or ester thereof.
33. A method for the treatment or prevention of a hepatitis C viral infection in a mammal by administering thereto an anti-hepatitis C virally effective amount of a compound of formula I according to claim 1, or a pharmaceutically acceptable salt or ester thereof, in combination with at least one other antiviral agent.
34. The method according to claim 33, wherein said antiviral agent is ribavirin.
35. The method according to claim 33, wherein said other antiviral agent is selected from another anti-HCV agent, HIV inhibitor, HAV inhibitor and HBV inhibitor.
36. The method according to claim 35, wherein said other anti-HCV agent is selected from immunomodulatory agents, other inhibitors of HCV NS3 protease, inhibitors of HCV polymerase and inhibitors of another target in the HCV life cycle.
37. The method according to claim 36, wherein said immunomodulatory agent is selected from  $\alpha$ -interferon and pegylated  $\alpha$ -interferon.
38. The method according to claim 36, wherein said inhibitor of another target in the HCV life cycle is selected from inhibitors of: helicase, NS2/3 protease and internal ribosome entry site (IRES).